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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,445	10/07/2003	Stephan K. Barsun	200310191-1	4517

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EXAMINER

DINH, TUAN T

ART UNIT	PAPER NUMBER
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2841

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/680,445

Applicant(s)

BARSUN ET AL.

Examiner

Tuan T. Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32,44 and 50-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 50 and 51 is/are allowed.
- 6) ☒ Claim(s) 1-9,11,12,19-24,30-32,44 and 52 is/are rejected.
- 7) ☒ Claim(s) 10,13-18,25-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

The indicated allowability of claims 21-22 and 32 are withdrawn in view of the newly discovered reference(s) to (US 6,614,659). Rejections based on the newly cited reference(s) follow.

Claim Objections

1. Claims 1, 3-5, 8, 10 are objected to because of the following informalities:

Claims 1 and 3-10 are unclear because:

As claimed in claim 1, line 3, the applicant recites **an (one) electronic component**, and further at lines 8-9, the applicant recited **one of the component...the other of the component**, so does the applicant mean that there are more than one components instead of only one component as recited in line 3? (same thing for claims 3-10), please verify.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9, 11-12, 19-24, 30-32, 44, 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Feigenbaum et al. (U.S. Patent 6,614,659), hereafter Feigenbaum.

As to claims 1-2, Feigenbaum discloses a circuit board assembly as shown in figures 1-9 comprising:

a circuit board (20, column 3, line 19);

an electronic component (18, column 3, lines 18-19);

a first structure (12, column 3, line 12) coupling the electronic component (18) to the circuit board (20) and retaining the electronic component (18) relative to the circuit board (20) at a selected **ONE** of a plurality of positions in both directions along a first axis perpendicular to the circuit board (20), the structure (the receptacle 12 retains the component 18 perpendicular to the PCB 20, see figure 2),

wherein the first structure (12) is movably coupled to said electronic component (18) and the circuit board (20) for movement in a direction perpendicular to the first axis at least prior to being coupled to the other electronic component (flexible circuit-14) and the circuit board (20).

As to claim 23, Feigenbaum discloses a mounting unit for use with a circuit board (20) as shown in figures 1-9 comprising:

an electronic component (18, column 3, lines 18-19);

a first structure (12, column 3, line 12) coupling the electronic component (18) to the circuit board (20) and retaining the electronic component (18) relative to the circuit

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board (20) at a selected **ONE** of a plurality of positions in both directions along a first axis perpendicular to the circuit board (20), the structure (the receptacle 12 retains the component 18 perpendicular to the PCB 20, see figure 2),

wherein the first structure (12) is movably coupled to said electronic component (18) at least prior to being coupled to the circuit board (20).

As to claim 44, Feigenbaum discloses a circuit board assembly as shown in figures 1-9 comprising:

A circuit board (20)

an electronic component (18, column 3, lines 18-19);

means for (a first structure 12, column 3, line 12) retaining the electronic component (18) to the circuit board (20) in a selected **ONE** of a plurality of positions in both directions along a axis while permitting movement of the component and the circuit board in at least one direction perpendicular to the axis.

As to claim 52, Feigenbaum discloses an electronic component mounting unit as shown in figures 1-9 comprising:

an electronic component (18);

a first structure (12) coupled to the electronic component and configured to be releasably coupled to a circuit board (20) to retain the electronic component relative to the circuit board at selected **ONE** of a plurality of positions in both directions along an axis perpendicular to the circuit board, wherein the structure is movably coupled to the electronic component at least prior to being coupled to the circuit board, wherein the first structure includes a surface (the surface of the screw 16) extending oblique relative

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to the axis and configured to engage a surface coupled to the circuit board during movement of the structure along the axis so as to also cause movement of the first structure in the direction perpendicular to the axis.

As to claims 3-5, Feigenbaum discloses the assembly including:

a first threaded portion (52) coupled to the electronic component (18) and the circuit board (20);

a second structure being keyed (hole 48) having a second threaded portion movably coupled to the electronic component and the circuit board, wherein the first structure has a third threaded portion (16) screwed to a first and second threaded portions (52, 48), the second structure being coupled to the component (18) and board (20) against complete rotation about the first axis.

As to claim 6, Feigenbaum discloses the second structure (48) includes at least one projection received within a corresponding opening formed in the electronic component (18).

As to claim 7, Feigenbaum discloses the second structure is releasably coupled to the electronic component.

As to claims 8-9, Feigenbaum discloses the assembly including a second structure (16, 48, 52, 54) movable coupled and retained the electronic component (18) to the circuit board at a selected one of a plurality of positions along a second axis non-parallel to the circuit board (20).

As to claim 11, Feigenbaum discloses the electronic component (18) includes a post (52) and wherein the first structure (12) extends within the post.

As to claims 12, 24, Feigenbaum discloses the electronic component includes a heat sink (24, column 3, lines 40-41).

As to claims 21-22, 32, Feigenbaum discloses the first and second structures including first and second surfaces, wherein at least one of the first surface and the second surface extends oblique relative to the first axis to cause movement of the first structure in the direction perpendicular to the first axis (the first surface, which is a surface of the screw 16) engage to a surface of the hole).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19-20 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feigenbaum ('659).

Regarding to claims 19-20, 30-31, Feigenbaum discloses all of the limitation of the claimed invention, except for the first structure (12) is movable in a direction perpendicular to the first axis by a distance in a range of 0.3-0.9 mm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a movable range of the first structure between 0.3-0.9 mm for the purpose of providing of a minimum size of a connection between the structure to the circuit board. Since it has been held that where the general conditions of the claims

are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Allowable Subject Matter

6. Claims 10, 13-18, 25-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 50-51 are allowed.

Response to Arguments

8. Applicant's arguments with respect to claims 1-32, 44, 50-52 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reichard Dean can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Tuan Dinh', with a stylized flourish at the end.

Tuan Dinh
January 16, 2007.